

Remediation, Assessment & Industrial Testing



RaPID Assay[®]

RaPID Assay Cyclodienes Test Kit

Features

- rapid field testing procedure for analysis of soil and water samples
- quantitative data results with excellent analytical precision
- test up to 50 samples at one time
- results in approximately 60 minutes
- training recommended
- magnetic particle immunoassay

Test Result Type

- Quantitative, semi-quantitative or qualitative.

Samples per Kit

- 100 Test Kit (tests up to 80+ samples)

Assay Range

- Soil:
0.15 to 7.5 ppm as Dieldrin
- Water:
0.6 to 26.6 ppb as Dieldrin
- Range can be extended via additional dilutions.

Sample Preparation

- Soil samples require prior extraction using the SDI Sample Extraction Kit (sold separately).
- The Sample Extraction Kit provides materials for 12 soil sample extractions with methanol.
- Water samples must be diluted 3 parts sample to 1 part water stabilizer to prevent adsorptive loss.

Sampling Time

- Soil extraction time is typically 2 minutes per sample plus assay run time of approximately 60 minutes.



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Basic Test Procedures

- Add prepared sample, enzyme conjugate, and antibody coupled magnetic particles. Vortex.
- Incubate for 30 minutes.
- Using the RaPID Magnetic Separator, decant & wash.
- Add color solution and incubate 20 minutes.
- Stop the reaction and read color at 450 nm.
- Quantitative results and QC parameters are calculated and printed automatically using the RPA-I spectrophotometer.

Specificity

The Cyclodienes RaPID Assay does not differentiate between various cyclodienes. The table below shows compounds at the limit of quantitation (LOQ) - an approximate concentration required to yield a positive result at the lowest standard. The IC50 is the concentration required to inhibit one-half of the color produced by the negative control. It is also used to calculate cross-reactivity values to similar compounds.

Cyclodienes in Water (ppb)		
Compound	LOQ	IC50
Dieldrin	1.33	8.94
Aldrin	1.17	7.88
Isodrin	1.42	9.54
Heptachlor-endo-epoxide	2.65	17.8
Heptachlor	2.37	15.9
Endrin	1.83	12.3
Chlordane	4.00	26.9
Endosulfan	6.64	44.6
Isobenzan	6.81	45.8
Toxaphene	17.26	116
Lindane	125.86	846

Test Kit Components

- Antibody coated magnetic particles for analysis of 100 test tubes.
- Diluent zero, wash, enzyme conjugate, color development and stop reagents.
- Standards for 1, 7.5 and 20 ppb as dieldrin.
- Kit Control at 10 ppb as dieldrin.
- Disposable test tubes.
- Test kit instructions.

Storage & Precautions

- Shelf life is typically one year from date of manufacture, with specific kit expiration date information provided on product packaging.
- Reagents must be stored at 39° to 46°F (4° to 8°C) when not in use.
- Storage at ambient temperature 64° to 81°F (18° to 27°C) is acceptable for day of use.
- Kits must be brought to 64° to 81°F (18° to 27°C) before use.
- Do not expose color solution to direct sunlight.

Required Test Materials

- | | |
|--|-----------------------------|
| • Cyclodienes 100 test kit | <i>SDI Part #</i>
A00216 |
| • SDI Sample Extraction Kit
(for soil samples only) | A00256EA |
| • Sample Diluent (as needed) | A00218 |
| • Water Stabilizer | A00219 |

Required Test Equipment

- | | |
|-----------------------------|-----------------|
| • RaPID Assay Accessory Kit | 605010 purchase |
| which contains: | 699701 rental |
| RPA-I RaPID Analyzer | A00003 |
| Magnetic Separation Rack | A00004 |
| Repeater Pipet | A00008 |
| Adjustable Volume Pipet | A00176 |
| Vortex Mixer | A00014 |
| Portable Balance | A00131 |
| Digital Timer | A00015 |
| • Repeater Pipet Tips | A00009 |
| • Adjustable Pipet Tips | A00013 |

Other Recommended Materials

- Latex gloves
- Liquid and solid waste containers
- Calculator
- Absorbant paper for blotting
- Marking pen



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